

EARNINGS MANIPULATION AS A DETERMINANT OF COST OF CAPITAL: EMPIRICAL ANALYSIS OF NON-FINANCIAL LISTED COMPANIES IN PAKISTAN

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Abstract

Management acts to maximize the wealth of shareholder and in addition, concentrated to minimize the cost of capital. However, sometimes management indulges in the manipulation practices of earnings information and such practices reduce the confidence of investors. Moreover, the cost of capital of firms is increasing. Hence, seeking this study investigated to empirically demonstrate that can earnings manipulation act as the determinant of cost of capital in capital market of Pakistan. For this purpose, the study selected 144 sample firms listed on the Pakistan Stock Exchange during 2007-2017. Along with performance matched model for measurement of earnings manipulation, costs of capital is calculated through weighted average cost of capital and also control variables. Moreover, the empirical findings are supported through agency, signaling and bankruptcy cost theories of capital structure. The empirical results demonstrate that when firms engage in earnings manipulation practices then their cost of capital will be high. Thus, the study found that earnings manipulation practices reduce the confidence of investors and they demand higher rate on their investment. Therefore, it is recommended to prepare the financial information according to the corporate governance code of Pakistan to control earnings manipulation practices of management, and get financing at lowest possible cost to increase the wealth of shareholders.

Keywords: Earnings Manipulation, Cost of Capital, Wealth Maximization, Performance Matched Model.

Introduction

Businesses such as Enron, Global Crossing Limited, Parmalat and Health International Holdings collapsed. The failure of these and such other businesses are considered the largest scandals of business world. In the similar vein, Gul and Tsui reported that these scandals declined the level of investors' confidence on the quality of financial reported information.¹ Further, added that earnings manipulation or Earnings Management (EM) masked the true picture of firm financial position. Similarly, Khan reported that businesses failure shattered investors' confidence on reported information.² Moreover, businesses collapses affected developed and developing economies. Johnson, Boone, Breach and Friedman reported that if management cannot disclose accounting information then information asymmetry is increasing, therefore

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this shatter the confidence of investors'.³ In addition, Habbash demonstrated that such practices of manipulation encourage the business failure.⁴ In addition, Strobl reported that previous literature shows that publically listed companies are highly indulged in these practices.⁵

Moreover, literature report that if the governance system of a country is strong and efficient then management avoids practices of EM. On the other hand, reveals that if management engage in such practices and shatter the confidence of investors then the expected Cost of Capital (CoC) of these firms are increasing. In the similar vein, Patro and Kanagaraj revealed that to make informed decisions accuracy and authenticity of financial information is utmost important.⁶ However, firms' management are involved in EM activities. Hence, literature reveals that on the basis of information asymmetry and manipulation practices of management investors demand higher return. Moreover, previous literature reports that a number of factors motivated management to indulge in EM practices such as Fudenberg and Tirole⁷ concluded that firms make earnings smoothening and Barghathi⁸ demonstrated that management of those companies whose financial position are weak become involved in such practices. Furthermore, Hadani, Goranova and Khan demonstrated that EM adversely affects earnings quality and in addition, information asymmetry increases.⁹ Similarly, the study demonstrated that these practices even negatively affect future performance of firms.¹⁰ On the other hand, studies reported that quality of earnings acts as an important attribute because equity and credit investors take it into consideration before making their decisions.¹¹

Healy and Wahlen define EM as:

"Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers".¹²

In addition, Lambert reported that due to noisy earnings of firms outside investors demand higher return on their investment. Therefore, Leuz, Nanda and Wysocki (2003) revealed that disclosed financial information should be accurate and reliable for decision purpose.¹³ Pham, Suchard and Zein (2012) demonstrated if the external monitoring practices are low, then management borrows unnecessary funds and such funds reduced their firms market risk.¹⁴ Therefore, the CoC is also increasing for such firms. Moreover, a small number of studies investigated EM and CoC in developing and developed countries. Therefore, in this study is included sample of publically listed firms on Pakistan Stock Exchange (PSX) to investigate EM effect on the level of CoC. The CoC plays its important role in the firm decisions such as it helps to choose the hurdle or cutoff rate of the project and alternatively it affect the capital structure of the firms. Moreover, the study observed that CoC presents the efficiency of management that how they utilize firm resources. The CoC is an important factor to investigate because as reported in study of Tran (2014) that it affects the value of firm.

Therefore, in the current study this is asserted that the EM practices affect positively the CoC of Pakistani listed firms.

Literature Review

Modigliani and Miller reported that the capital structure does not affect value of firm and CoC. However, in their subsequent study, Modigliani and Miller reported that corporate tax affects the firm value and cost of capital.¹⁵ In addition, Markopoulou and Papadopoulos concluded that more debts in the capital structure generate advantages for firms in term of tax deduction and maximized value of firms.¹⁶ This current study is based on the cost based theories such as the agency costs, bankruptcy and signaling cost theories. Agency cost theory demonstrates that it reduces conflict of interests. Moreover, capital encourages management to utilize the firm resources in an efficient way. Furthermore, literature reveals that creditors having the power to monitor management activities, hence they avoid manipulation of accounting information and ultimately increases quality of such information. In addition, reported that if information is truly presented then it conveys positive signal into the market participants and they used authentic information in their decisions. Therefore, investors demand lower rate of return on their investments and firms pay lowest CoC. In the similar vein, reported that Heinkel reported that more debts in capital structure increase chances of bankruptcy.¹⁷ However, if information reported is true and accurate then the level of CoC is low because the chances of bankruptcy are lower in this situations and investors demand low rate of returns.

Earnings Management and Cost of Capital

Kim and Sohn studied EM and CoC in US listed firms and conclude that EM positively affect the CoC due to the management involvement in opportunistic EM practices.¹⁸ Hence, such unrealistic information added in the record of firms financial reports and ultimately, chances of losses increase. Therefore, investors increase their required rate of return and firms CoC are increased. In addition, Strobl reported that EM and CoC are significantly associated.¹⁹ However, others find that EM and CoC are inversely and significantly related. Thus, concluded that association of EM and CoC is still controversial. Furthermore, positive relationship of CoC and EM shows that uncertainty increases due to manipulation activities of management and therefore, investors confidence on reported information is reduced. However, negative association of EM CoC shows that debts act as a tool of monitoring mechanism, hence to increase investors' confidence management is involved to produce quality information. Moreover, it is reported that the quality information reduces the level of CoC. Therefore, it is concluded that there is still required further investigation to demonstrate an accurate causal relationship between EM and CoC in developed and developing capital markets listed companies. Hence, current study investigates this role of EM as a determinant of CoC in capital market of Pakistan in a developing economy perspective.

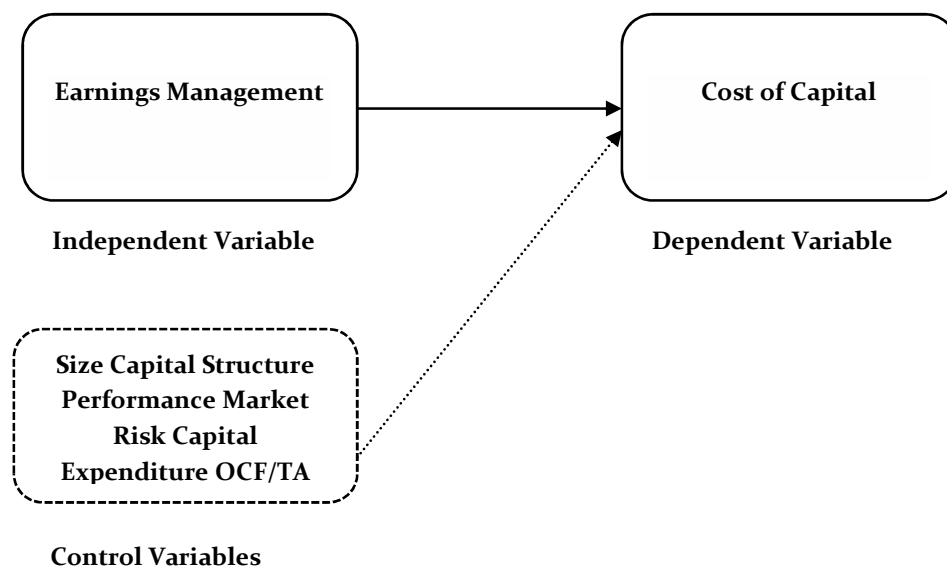
Others investigated cost of equity and debts with EM instead of CoC. Such as relationship of EM and cost of equity is examined in Indonesian listed companies and

revealed that EM positively and significantly affects the cost of equity.²⁰ Similarly, concluded that EM and CoC are positively related.²¹ Furthermore, Ben-Nasr and Al-Dakheel investigated the earnings quality impact on cost of equity in a sample of privatized firms of industrialized and developing economies.²² The results revealed that firms of lower earnings quality have the higher cost of equity. Similarly, Bhattacharya et al. investigated EM and cost of equity in cross countries.²³ For this purpose, selected sample of 34 countries and the results demonstrated that increase in EM practices increases firms cost of equity. This positive association shows that the fake information deceives the investors and they demand high returns. However, other studies reported negative association of EM and cost of equity.²⁴ Finally, concluded that EM and cost of equity still require research to clearly determine their association in a developing country such as Pakistan.

In addition, earnings manipulation and cost of debt is investigated, such as EM and cost of debts in a sample of banking industry of 85 countries are examined and revealed that EM and cost of debts are positively associated.²⁵ Finally, the literature review demonstrates that area of earnings manipulations and CoC needs attention to explore in developing countries like Pakistan.

Conceptual Framework

In current study developed the conceptual framework after review of previous literature and empirical investigations in this area. This framework shows the impact of EM and other control variables on CoC of non-financial firms listed on PSX. Moreover, EM is proxied through performance matched model, CoC is measured through Weighted Average Cost of Capital (WACC). In addition, shows control variables like firm size, capital structure, performance, market risk, capital expenditures and the ratio of operating cash flows to total assets.



Control Variables of the Study

Characteristics of a firm affect EM practices such as capital structure and firm size and performance.²⁶ In addition, capital expenditures, market risk and Cash Flows from Operation (CFO) activities are used as control variables. Previous studies used total assets logged value as proxy of firms' size. In addition, they concluded that management of large size firms faces more pressure. Therefore, they reported more predictable earnings.²⁷ Moreover, they reported that performance of firms indicates management ability of efficiently utilizing resources of firms. Return of Assets (ROA) is used as proxy of firm performance.²⁸

Results and Discussions

Descriptive Statistics

Table-1: Descriptive Statistics

Variables	Mean	Median	St. Dev	Minimum	Maximum
EM	-0.018	-0.012	0.841	-1.799	1.893
CoC	1.560	1.11	3.123	-5.037	9.742
CS	0.551	0.559	0.222	0.007	0.999
Size	6.842	6.786	0.629	5.336	8.392
CE	0.708	0.716	0.335	0.000	0.932
ROA	0.063	0.057	0.112	-0.539	0.297
CFO	0.088	0.066	0.133	-0.193	0.39
Beta	0.741	0.744	0.614	0.976	1.997

Table-1 reports the descriptive statistics of dependent, independent and control variables. It explains the nature of data PMM minimum value is -1.799 and its maximum value is 1.893. Moreover, its mean and median values are -0.018 and -0.012 respectively, its standard deviation is low and therefore, variation in the series from its mean value is low. These results show that listed firms on PSX follow same procedures of accounting information reporting practices and manipulation practices of management are not high in these firms. Similarly, the descriptive statistics report the minimum and maximum level of series. Range of maximum and minimum values of CoC is low, hence the investors' trust on financial market is high and they demand low rate of return on their investment. Its mean and median values are closely associated. In addition, the study finds that the capital structures show that Pakistani listed companies to a high level rely on debt instead of equity financing. Furthermore, size of sample firms show that these firms are not too much different. Similarly, CE results of descriptive reveals that sample firms of the study have the opportunity to expand their businesses because of favorable business environment. Moreover, performance descriptive statistics reveals that on average all firms show positive performance. CFO results show that sample firms of PSX generate more cash. It conveys positive signal to the capital market about industries and economy performance of Pakistan. Moreover, find that market risk of sample firms is less than the market risk.

Correlation Analysis

Table-2: Correlation Results

	EM	CoC	LEV	ROA	Size	Beta	CFO	CE
EM								
CoC	0.038							
CS	0.065	-0.217						
ROA	-0.071	-0.106	-0.482					
Size	0.218	-0.285	0.036	0.048				
Beta	0.081	0.768	0.179	-0.182	-0.2875			
CFO	-0.033	-0.023	-0.239	0.534	0.0303	-0.071		
CE	-0.174	-0.058	0.265	0.213	0.2169	0.057	0.0367	

Table-2 presents correlation results such as EM is negatively related with CE, CFO and firm performance. This negative association between CE and EM shows that if firms having the opportunities to expand their business then they cannot manipulate information of earnings. This negative association is same as reported in the study of Conyon & He.²⁹ Moreover, ROA is negatively associated with EM and it shows that if firms perform highly then their management indulges less in EM practices. Furthermore, negative relationship of CFO and EM shows that if firms generate more CFO then manipulation practices are low in such firms. These findings are consistent with the research study of Jiang as mentioned above. However, association of capital structure and size with EM is positive. Positive association of capital structure and earnings management is same as reported other studies. Moreover, results show that if size of firms is large then they involve to a great extent in EM because such the reported information is more complicated as compared to small size companies. These findings are same as other studies.³⁰ Further, it reports that EM is positively related to CoC. These findings show that firms whose management are involved in EM then CoC are expected to be high because investors' cannot have trusted on reported information. Hence, they demand a higher rate of return.

In the similar vein, capital structure, ROA and size are inversely related with CoC. Association of capital structure and CoC is same as reported by Claessens.³¹ The negative relationship of CoC and ROA reports that if profit of sample companies is high then chances of bankruptcy are low and ultimately, the CoC becomes low. Moreover, it reveals that large firms finance their businesses at lowest possible CoC as compared to small firms.

Empirical Results

Table-3: Diagnostic Test Results

Tests	test values	
	p-values	
F-test		
F-value	1122.11	0.000 **
Hausman test		
	12.48	0.126
Breusch and Pagan test		
	30.30	0.000 **

Note: diagnostic test results of panel data techniques recommend that the appropriate model is random effect for analysis. ** $p < 0.01$, *** $p < 0.1$.

Table-3 reports appropriate model selection of panel data. The results report that the suitable model is the random effect model.

Table-4: Random Effect Model Results

Dependent Variable (CoC)			
Variables	Coefficient	z-statistic	p-value
Constant	9.300	9.11	0.000
EM	0.140	2.24	0.025*
Beta	3.740	39.04	0.000**
LEV	-1.840	-4.85	0.000**
CE	-0.130	-0.67	0.502
ROA	-1.734	-2.78	0.005**
CFO	-0.663	-1.25	0.213
Size	-0.534	-3.84	0.000**
Adjusted R-Square	60.43%		
F-Statistic		261.34 (p-value 0.000***)	

Table-4 presents that EM significantly and positively affects the CoC of companies listed on PSX. Hence, these findings demonstrate that when management is involved in earnings manipulation then perception of investors is high about risk level. Therefore, they demand a higher return from management on their investment. Similar results are found in the other studies.³² Similarly, when management indulge in activities of EM then it reduces the level of investor protection. Therefore, CoC of such companies are increased. Moreover, market risk and CoC of sample firms are positively related. Previous literature supports these findings that as the level of market risk are positively associated with the required rate of return, and alternatively the positive association between risks and return act as an accelerator between risk and CoC.

Capital structure of Pakistani sample firms is negatively and significantly associated with the CoC. Moreover, the findings reveal that CE of sample firms negatively and insignificantly affects the level of CoC. It shows that when firms make more investment in CE then investors expect that businesses are expanded and they generate more funds to pay their obligations. Thus, they are willing to get low rate of return on their investment. Furthermore, it demonstrates that when management makes investment in such projects which have a positive NPV, then in such firms' investors place soft conditions and CE reduces the level of CoC of firms. Further, it reveals in the current study that ROA and CoC are significantly associated but their relationship is negative. These findings show that if the firms favorably perform and generate more returns on their assets then risk level is reduced and confidence of investors increases. Therefore, they cannot demand for a higher return on their investment. Furthermore, it reported that CFO negatively but insignificantly affects the level of CoC. Moreover, it concludes that CFO controls the differences in terms of performance of firms because this study selected sample firms from different sectors. The negative association of these variables demonstrates that firms that generate more cash flow from their operating activities can attract more investors to investment and in such situation they can make investment at lowest possible CoC. Further, concluded that the high level of cash flow from operations demonstrated that the expected profit of firms will increase. Therefore, firms whose performance is high face lesser uncertainty and in turn, shareholders demand a lower return on equity investment and cost of equity becomes reduced. Moreover, the bankruptcy theory supports these findings that creditors trust is high in these sample firms. In addition, it concluded that firms that need new loans, these loans convey signal to market that expected cash flows are high because from future cash flows management fulfills debt obligations. Hence, the findings of this study are supported by the signaling theory of CoC. Similarly, the results of current study are further supported by agency theory of CoC. Habbash (2010) reveals that when firms generate more cash flow from operations then their management's involvement in practices of earnings manipulation is reduced. Therefore, level of CoC is declines. Further, it finds that the size of firms significantly and negatively affects the CoC of sample firms listed on PSX. In addition, concludes that large size firms finance their investment from external financing at low cost as compared to small firms. Finally, it demonstrates that the value of adjusted R-square report that independent variables of this study explained variation in CoC up to 60.43% and F-statistic shows that the model is significant and valid therefore used for analysis.

Conclusion

The current examined to empirically determine that EM act as the determinant of CoC in the context of Pakistan as a developing country. For this purpose, it used a sample of 144 listed companies on PSX during 2007-2017. For EM, the study used the performance matched model of Kothari, Leone and Wasley.³³ and used WACC as proxy of CoC. Moreover, control variables were used in this study that can affect the level of CoC. For analyses, the study used the panel data approaches and the diagnostics tests results recommended that the appropriate model is random effect for this study. The final results recommended that firms that are engaged in EM practices find that their

CoC are high. Therefore, the study recommends to management of firms to not indulge such activities to get external financing at lower possible cost and to increase the value of their firms. Moreover, it recommended to management of Pakistani listed companies to adopt and implement the corporate governance code in true spirit and to encourage investors to invest at lowest possible CoC.

NOTES

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